

State of Alaska  
Department of Fish and Game  
Nomination for Waters  
Important to Anadromous Fish

Region ARCTIC ↓ USGS Quad HARRISON BAY A-2  
HARRISON BAY B-2

Anadromous Water Catalog Number of Waterway 330-00-00700-0250

Name of Waterway UNNAMED LAKE ☐ USGS Name ☐ Local Name

☒ Addition ☐ Deletion ☐ Correction ☐ Backup Information

For Office Use

|                    |               |                       |                 |
|--------------------|---------------|-----------------------|-----------------|
| Nomination #       | <u>98 116</u> | <u>[Signature]</u>    | <u>10-13-87</u> |
| Revision Year:     |               | Regional Supervisor   | Date            |
| Revision to: Atlas | Catalog       | <u>[Signature]</u>    | <u>1/27/98</u>  |
| Both               | <u>X</u>      | AWC Project Biologist | Date            |
| Revision Code:     | <u>A-2</u>    | <u>[Signature]</u>    | <u>4/2/98</u>   |
|                    |               | Drafted               | Date            |

OBSERVATION INFORMATION

| Species     | Date(s) Observed | Spawning | Rearing | Present | Anadromous                          |
|-------------|------------------|----------|---------|---------|-------------------------------------|
| LEAST CISCO | 7-21-95          |          | X       | X       | <input checked="" type="checkbox"/> |
|             |                  |          |         |         | <input type="checkbox"/>            |
|             |                  |          |         |         | <input type="checkbox"/>            |
|             |                  |          |         |         | <input type="checkbox"/>            |
|             |                  |          |         |         | <input type="checkbox"/>            |

**IMPORTANT:** Provide all supporting documentation that this water body is important for the spawning, rearing or migration of anadromous fish, including: number of fish and life stages observed; sampling methods, sampling duration and area sampled; copies of field notes; etc. Attach a copy of a map showing location of mouth and observed upper extent of each species, as well as other information such as: specific stream reaches observed as spawning or rearing habitat; locations, types, and heights of any barriers; etc.

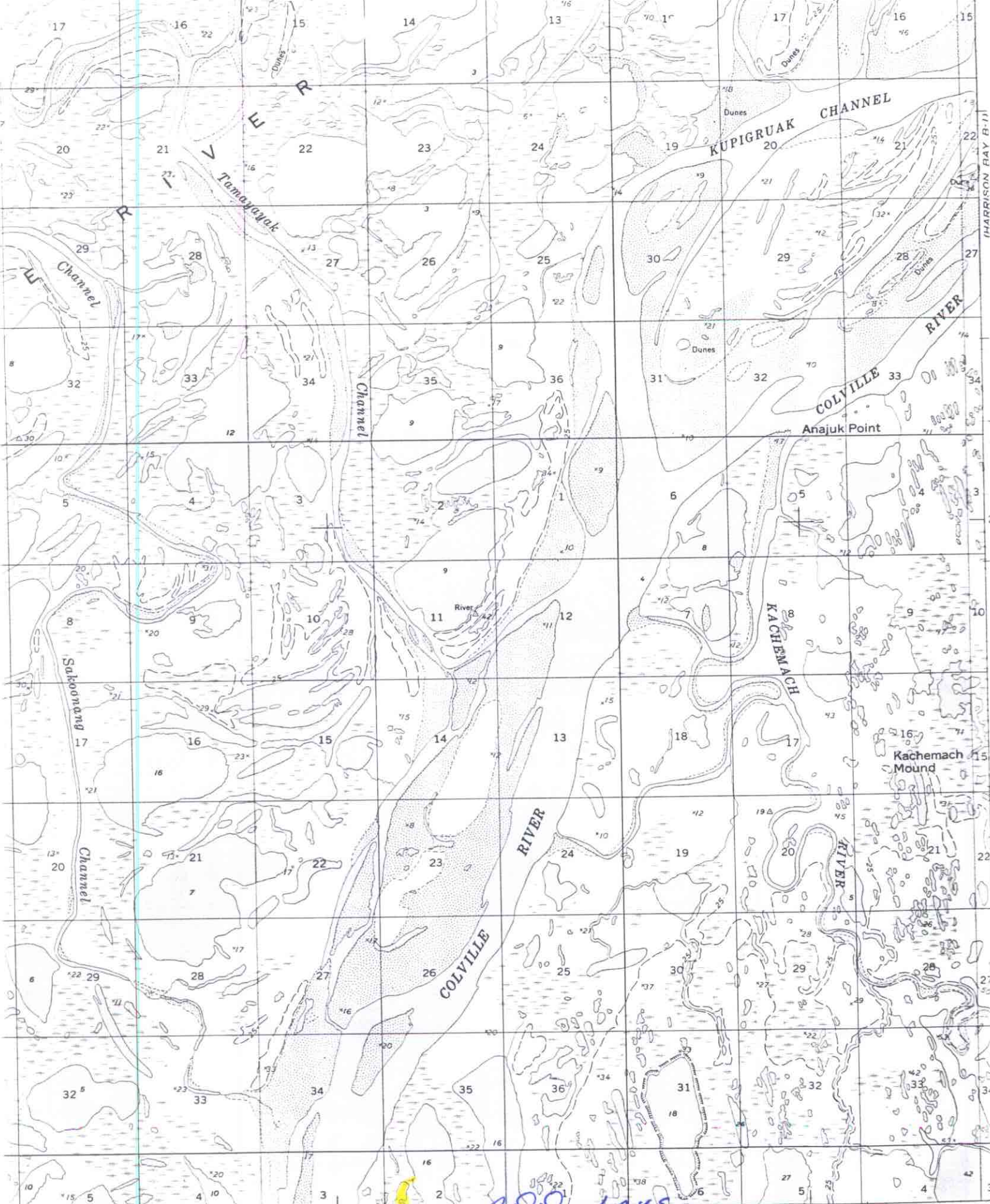
Comments: SEE ATTACHED PAGES FROM MOULTON (1997), LAKES SAMPLED FOR FISH IN AND NEAR COLVILLE RIVER DELTA, ALASKA 1979-1996  
[CONNECTED TO LAKE 9335 WHICH HAD LEAST CISCO]  
ALASKA DEPT. OF FISH & GAME  
OCT 23 1997

Name of Observer (please print) LARRY MOULTON REGION II  
Date: \_\_\_\_\_ Signature: MGM RESEARCH HABITAT AND RESTORATION  
Address: 5460 NE TOLO ROAD DIVISION  
BAINBRIDGE ISLAND, WA 98110

This certifies that in my best professional judgment and belief the above information is evidence that this waterbody should be included in or deleted from the Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes per AS 16.05.870.

Signature of Area Biologist: [Signature]





(HARRISON BAY A-2)

SCALE 1:63360

4 MILES

INTERIOR GEOLOGICAL SURVEY, RESTON, VIRGINIA—1981

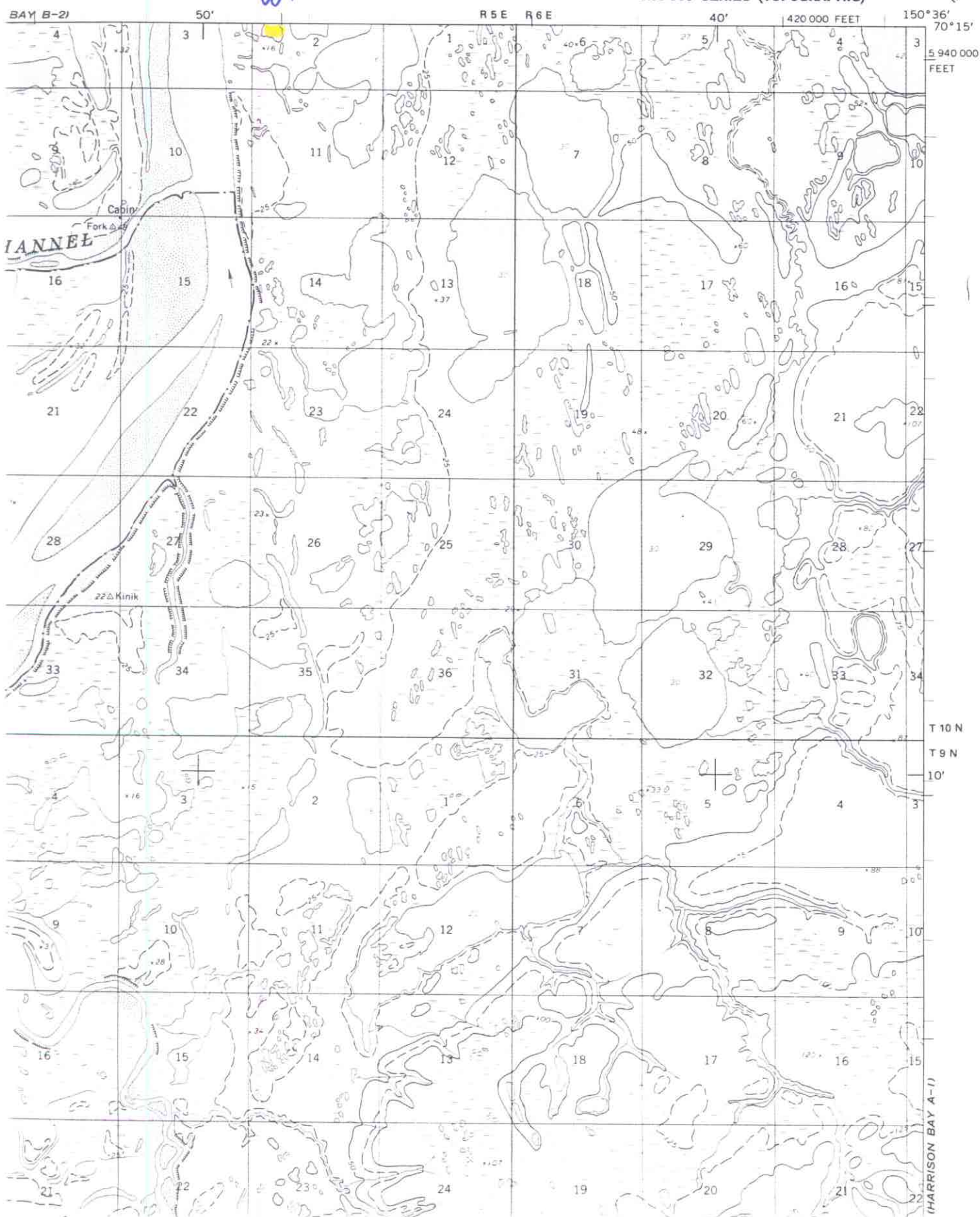
59°00'00" E. 15°

ADD LAKES  
330-00-00700-0250  
w/ WF



## 1:63 380 SERIES (TOPOGRAPHIC)

(HARRISON BAY B-1)



## Lake M9508

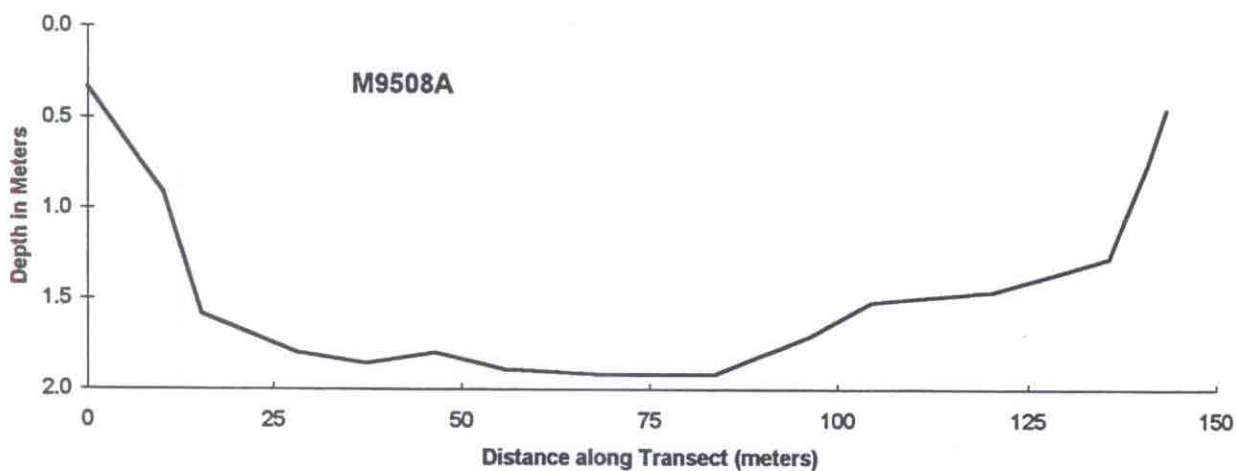
Other Names: none

Location: 70°15.03'N 150°48.72'W; Harrison Bay B-2: T10N R5E, Sect 2

Habitat: Perched Lake (Infrequent Flooding)

Catch Record:

|   |      | Effort  |         | Number |
|---|------|---------|---------|--------|
| Gear  | Date | (hours) | Species | Caught |
| Not sampled, connected to L9335, which contained least cisco and ninespine stickleback. |      |         |         |        |



**M9508**

**70°15.03'N 150°48.72'W**

**Area = 20 acres**

**Max. Depth = 6.3'**

**Conductivity=58 umhos**

**Not Sampled - Connected to L9335**

**Transect A ->**



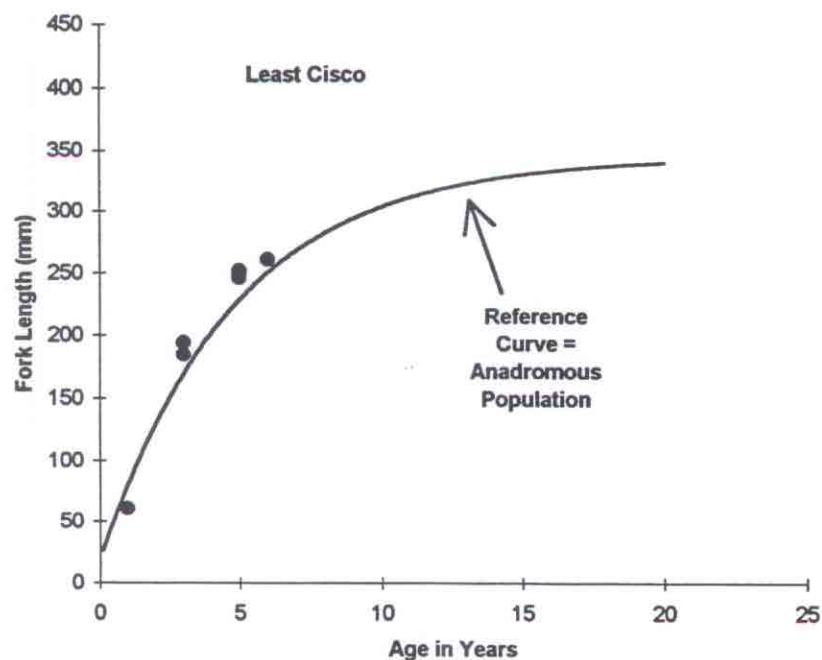
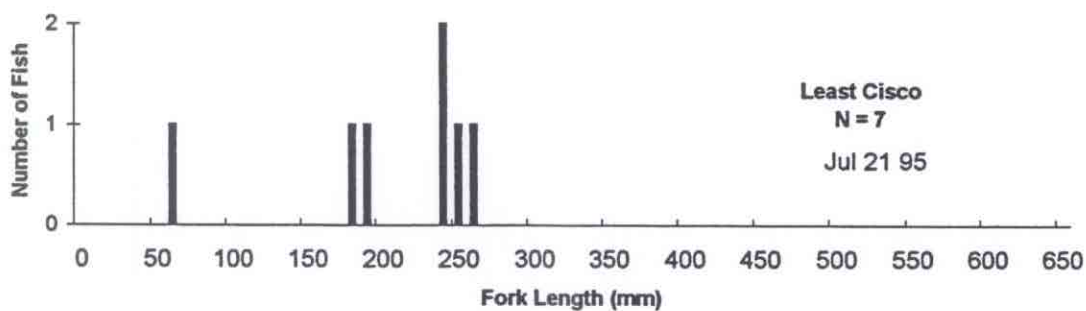
# **Lake L9335**

**Other Names:** none

**Location:** 70°15.34'N 150°48.11'W; Harrison Bay B-2: T10N R5E, Sect 2

**Habitat:** Perched Lake (Infrequent Flooding)

| Catch Record:  |           | Effort  |                    | Number |
|----------------|-----------|---------|--------------------|--------|
| Gear           | Date      | (hours) | Species            | Caught |
| Fyke Net       | Jul 21 95 | 23.2    | Least cisco        | 7      |
|                |           |         | 9spine stickleback | 33     |
| 2 Minnow Traps | Jul 21 95 | 46.1    | 9spine stickleback | 3      |
| Set Line       | Jul 21 95 | 23.0    | None               | 0      |





## Answers to your Questions about Unnamed Lakes with Least Cisco and Broad Whitefish - Colville River

(Question #1) if an outlet stream exists and where is it? Many of the lakes do not have outlet streams. For those lakes with defined outlets I have shown them on the USGS maps.

(Question #2) if there is no outlet stream, are these fish truly anadromous? Yes, the lakes without outlets or inlets that have least cisco and/or broad whitefish are flooded periodically by the Colville River. During these flood events which may occur annually or in some cases maybe only during a 5-year event, fish (anadromous species) move into and out of the lakes. Many of the lakes within the Colville River delta are classified as perched (either frequently or infrequently flooded) and the same thing happens. Whitefish move in and out based on flow events. Most movement into or out of lakes occurs during breakup when flood levels in the Colville River peak. Unlike other streams on the North Slope, major flood events in the Colville River (at least the lower portion - the delta) are spring breakup events.

(Question #3) if so can you provide some references or documentation supporting anadromy, migration patterns, spawning etc? The main reference is Moulton (1997) in which he summarizes fisheries data collection and lists the species. He also includes growth curves for least cisco that can be compared with a growth curve based on data from anadromous least cisco. Generally, growth for lake residents is higher than for anadromous. But, at any point in time, a lake resident fish with access to brackish waters, may go to the nearshore to feed.

Lakes within the delta should continue to be covered with the polygon. One could possibly make the argument that a polygon is also appropriate for many of the lakes located just east of the main channel of the Colville River. Most of these lakes, even though the sampling is still fairly limited, contain broad whitefish and least cisco. Moulton's prefers to use fyke-nets to collect fish to reduce mortality but in the deeper lakes the broad whitefish are generally not caught with fyke-nets. Thus the number of fish, particularly broad whitefish and least cisco, in the deeper lakes is much higher than shown by fyke-net data.